

Protocols



Instrument Construction, Site Selection, and Set-Up

Measurements should be taken every day when possible.

Cloud Protocols

Students estimate the amount of cloud cover and observe which types of clouds are visible.

Aerosol Protocol

Students use a sun photometer to measure the amount of sunlight reaching the ground when clouds do not cover the sun.

Optional Barometric Pressure Protocol

Students read the atmospheric pressure each day from an aneroid barometer or altimeter mounted in their classroom.

Relative Humidity Protocol

Students measure the relative humidity using either a digital hygrometer or a sling psychrometer or infer 100% relative humidity when it is raining, snowing, or foggy.

Precipitation Protocols

Students measure daily rainfall using a rain gauge, daily snowfall using a snow board, total snow accumulation on the ground, the equivalent depth of rain for both new snow and snow pack, and use techniques from the *Hydrology Investigation* to measure pH of rain or melted snow.

Maximum, Minimum, and Current Temperature Protocol

Students use a maximum/minimum thermometer mounted in their instrument shelter to measure current temperature and the maximum and minimum temperatures for the previous 24 hours.

Ozone Protocol

Students expose a chemically sensitive strip to the air for an hour and determine the amount of ozone present using an ozone strip reader.